



f a c t s h e e t

Disposal of Waste Medications by Health Care Facilities

A wide variety of health care facilities discard unwanted medications, including pharmacies; hospitals; offices of physicians, dentists and other health care practitioners; outpatient care centers; residential care facilities; and veterinary clinics.

What medications need special handling when they are discarded?

Many medications do not need special handling when they are discarded. However, two regulations apply to specific medications or the chemical compounds from which they are made (please note that some medications must be managed in compliance with both regulations):

- Medications that are regulated as “**controlled substances**”¹ by the U.S. Drug Enforcement Administration (DEA) and the Massachusetts Department of Public Health (DPH), which generally include medications that have a potential for abuse and physical or psychological dependence (i.e., narcotics, stimulants, depressants and anabolic steroids), and all other prescription drugs.
- Medications that are made from chemicals that are regulated “**hazardous wastes**” when they are disposed of. These contain one or more chemicals that are:
 - > Listed specifically by the U.S. Environmental Protection Agency as a “P” (acutely toxic) or “U” (toxic) waste², or are
 - > *Ignitable* (e.g., solutions containing more than 24 percent alcohol), *corrosive* (e.g., they contain strong acids such as glacial acetic acid or strong bases such as sodium hydroxide), *reactive* (such as nitroglycerine) and/or *toxic* (e.g., depending on the concentration, medications containing arsenic, barium, cadmium, chloroform, chromium, lindane, m-cresol, mercury, selenium or silver).

Disposal Requirements

Some health care facilities commonly use toilets or slop sinks for the disposal of unwanted drugs. However, there is increasing scientific evidence that the chemicals in unwanted medications are entering the environment at levels that are harmful to our natural ecosystems, and there is some evidence that small amounts of these compounds may be getting into drinking water. Therefore, MassDEP strongly discourages flushing to dispose of unwanted medications, and recommends the following strategies for their disposal:

Managing Controlled Substances:

- Discard controlled substances through a reverse distributor that is registered with DEA, if your facility has access to such a program. This will significantly reduce the volume of waste medications that your facility must dispose of.

¹ These are listed in the schedules of the Controlled Substances Act and Title 21 of the Code of Federal Regulations, sections 1308.11–1308.15, and in Massachusetts General Laws chapter 94C and 105 Code of Massachusetts Regulations 700.000.

² The U.S. Environmental Protection Agency estimates that approximately 30 chemical compounds on the “P” and “U” hazardous waste lists are used in pharmaceutical preparations. Please note that a particular compound may be used in multiple brand name pharmaceuticals. For example, several chemotherapy drugs (CTX, Cytotoxan, Neosar, and Procytox) all contain cyclophosphamide, which is a U-listed hazardous waste when discarded. Examples of pharmaceutical compounds that are also hazardous wastes can be found at <http://www.h2e-online.org/hazmat/pharma.html#listed> and http://www.practicegreenhealth.org/private/library_resource/376 and http://www.dep.state.fl.us/waste/quick_topics/publications/shw/hazardous/WastePharmListLetter12_07.pdf

- If your facility does not have access to a registered reverse distributor, any discarded controlled substances will need to be managed in compliance with the DEA's requirements, which ensure that these medications are actually disposed of or destroyed. For more information about registered reverse distributors, contact DEA (see "For More Information" below).
- For information on proper disposal of all controlled substances and prescription medications by a health care facility, contact the Drug Control Program in the DPH (see "For More Information" below).

Discarded medications that contain chemicals classified as "hazardous wastes" must be:

- Taken by a licensed hazardous waste transporter to a facility that is licensed to dispose of hazardous waste, shipped on a Hazardous Waste Manifest, and
- Managed properly before they are shipped by storing the medications in closed containers that prevent leaks, and are located in secure areas and on impervious surfaces so that leaks and spills cannot be released into the environment. The rules also limit the volume and length of time that waste medications can be stored, and require facilities to have emergency procedures in place to manage spills. The specific requirements depend on the volumes of waste stored. Guidance on procedures for managing hazardous wastes can be found at: <http://www.mass.gov/dep/recycle/laws/sqgsum.doc>. and <http://www.mass.gov/dep/recycle/hazardous/vsqqfcts.htm>

Controlled substances that are also "hazardous waste" must use the hazardous waste management system, and must also comply with DEA's requirements.

- *MassDEP's regulations allow discarded medications that are not classified as "hazardous waste" to be disposed of in trash, but DEA/DPH requirements for "controlled substances" and prescription medications may apply.* It is advisable to adulterate discarded medications so they are no longer in a form in which they can be used (e.g., by an unauthorized user) before placing discarded medications in trash.

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Summary of Requirements for Medication Disposal by Businesses & Institutions			
Determine which regulations apply to the discarded medication		Is the medication a "controlled substance"?	
		Yes	No
Is the medication a "hazardous waste" (either listed specifically or due to a characteristic)?	Yes	Meet both MassDEP hazardous waste AND DEA/DPH requirements	Meet MassDEP hazardous waste requirements
	No	MassDEP allows disposal in trash. Must also meet DEA/DPH requirements	Place in trash

Managing empty containers that held medications classified as "hazardous waste":

- Empty containers that held medications that are classified as "hazardous waste" but not "acutely hazardous waste" may be disposed of in trash as long as there is less than one inch of medication residue in the containers. Containers holding more than one inch of residue must be managed as "hazardous waste."
- According to the Massachusetts Hazardous Waste Regulations (310 CMR 30.000), empty containers that held medications that are classified as "acutely hazardous waste" must be triple-rinsed before the container can be disposed of in trash. Water or other solvents used to rinse these containers must be collected and managed as "hazardous waste." Any inner liner that came into contact with the medication must be managed as "hazardous waste."

Blister packs that contained medical nitroglycerin and “EpiPens” or syringes that were used to deliver epinephrine to a patient are notable exceptions to this rule. These containers may be disposed of in trash with no need for rinsing.

The U.S. Environmental Protection Agency (EPA) has issued guidance clarifying the requirements that held other “P” listed pharmaceutical wastes, such as nicotine gum/patches and warfarin, which MassDEP recognizes and concurs with:

[http://yosemite.epa.gov/osw/rcra.nsf/0/57B21F2FE33735128525795F00610F0F/\\$file/14827.pdf](http://yosemite.epa.gov/osw/rcra.nsf/0/57B21F2FE33735128525795F00610F0F/$file/14827.pdf)

Please note that the hazardous waste regulations apply to any business that manages or arranges for disposal of waste that is classified as “hazardous.” At residential health care facilities, medications may be prescribed to individual residents; once the individual has taken possession of the medication, it does not need to be managed as a “controlled substance” if it is discarded before it is used. However, since these facilities arrange for disposal of the wastes generated both by the facility itself (e.g., by maintenance, the kitchen and offices) and the wastes generated by the residents, the facility must comply with applicable hazardous waste management regulations, even if the waste is an unused medication discarded by an individual resident.

For More Information

About the effects of medications that are released into the environment:

- MassDEP Pharmaceuticals & Personal Care Products page:
<http://www.mass.gov/eea/agencies/massdep/toxics/sources/pharmaceuticals-and-personal-care-products.html#4>

About hazardous waste management requirements:

- Massachusetts Hazardous Waste Management Regulations (310 CMR 30.000):
<http://www.mass.gov/dep/recycle/laws/regulati.htm#hw>
- Examples of pharmaceutical compounds that are hazardous wastes:
<http://www.h2e-online.org/hazmat/pharma.html#listed> and
http://www.practicegreenhealth.org/private/library_resource/376 and
http://www.dep.state.fl.us/waste/quick_topics/publications/shw/hazardous/WastePharmListLetter12_07.pdf
- MassDEP requirements for managing hazardous wastes and for shipping them to facilities that are licensed to dispose of them:
<http://www.mass.gov/dep/recycle/hazardous/generati.htm>
- MassDEP list of licensed hazardous waste transporters:
<http://www.mass.gov/dep/recycle/hazardous/transport.htm>

About management of controlled substances and other prescription medications:

- Massachusetts regulations governing “controlled substances” (105 CMR 700.000):
http://www.mass.gov/?pageID=eohhs2terminal&L=5&L0=Home&L1=Government&L2=Laws%2c+Regulations+and+Policies&L3=Department+of+Public+Health+Regulations+%26+Policies&L4=Regulations+by+CMR+Number&sid=Eeohhs2&b=terminalcontent&f=dph_regs_700_799&csid=Eeohhs2
- Drug Control Program at the Massachusetts Department of Public Health provides information about proper management of controlled substances (including prescription drugs). Telephone: (617) 983-6700 Fax: (617) 524-8062 Email: dcp.dph@state.ma.us Website: <http://www.mass.gov/dph/dcp>
- U.S. Drug Enforcement Administration provides information about registered reverse distributors. Telephone: (617) 557-2100

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